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pulses of her freely developed life. She will find such influences eminently in her chairs of Moral Philosophy, if these are what they should be, — if, as in the work we have now reviewed, it shall be clearly shown, in the halls of public instruction, that reason and revelation are coincident in their teachings, the latter confirming and enforcing the former, as with the solemn voice of God. Under such training, it may be confidently anticipated that there will come up men of clear and right perceptions, of sturdy principle, of incorruptible integrity, and lofty aims, — men who shall be worthy to be the statesmen, legislators, and magistrates of a great and free republic, destined to be for the world an exponent of the true and divine idea of a Christian civilization.

ART. V. — *The Fruits of America, containing a Selection of all the Choicest Varieties cultivated in the United States.* By C. M. HOVEY, Editor of the Magazine of Horticulture. Boston: Little, Brown, & Co. New York: D. Appleton & Co.

IT is generally understood that Botany includes a description of plants only in their normal condition; that, when they have been considerably modified by culture, the laws of their new nature and development belong to the department of Horticulture. Flowers thus modified are assigned to the florist, and fruits to the pomologist, that the professor of botany may not be encumbered with the thousand new appearances and capricious varieties which plants are apt to assume when subjected to the appliances of art. Botany seldom descends lower in the scale of classification than to take cognizance of species and sub-species. Varieties, especially such as are produced by cultivation, as well as the laws by which these varieties have been created, are the special study of the horticulturist. These alone impose upon him a task of no small magnitude, and one requiring powers of discrimination which very few persons possess. Each of the different branches of horticulture is sufficiently comprehensive to be made the study of a lifetime ; and there is no department of this science more interesting or important than pomology, which is the subject of the elegant work now under review. It embraces a vast amount of information ; and there are few readers, if they had previously given but little attention to the subject, who would not be surprised at the almost endless characters assumed, in their various habits of "sporting," by the different species of cultivated fruits.

One of the most important tasks connected with pomology is the nomenclature of varieties. The nomenclature of genera and species has exercised the powers of many of the best human intellects, and it still remains confessedly imperfect. But the difficulty increases in proportion as species have been changed by cultivation ; and when they have been multiplied, as in many cases, into thousands of varieties, the work becomes almost endless. So, at least, it would be found, if it were attempted by one who had not been, for a long series of years, a cultivator of fruits, and a close student and inspector of their characters. The marks that distinguish varieties are in many cases so slight, even when important, that a person of the nicest habits of observation, unaccustomed to the task, would often find it impossible to recognize them. On the other hand, he would be liable to over-estimate the importance of certain differences which are immaterial. He would be apt to mistake those marks which are mere individual accidents or peculiarities, for those permanent and transmissible appearances properly regarded as the distinctive characteristics of the variety.

Without intending to enter minutely into details, we will enumerate a few particulars to illustrate the complications attending the art of distinguishing varieties. The first examination would obviously be made of the fruit, to determine whether it is large or small ; then, if we take an apple, for example, whether it be round like a Baldwin, or oval like a Porter apple, elongated like the Gillyflower, or flattened like a Fall Pippin. We must see whether it is of one color, or of two or more colors blended. If of one color, it may be purple, red, russet, green, or yellow ; if it be mixed, one side may be reddened, or the whole surface may be more or less variegated, either mottled or striped. The pulp may be white, or yellow, or greenish, or reddish; it may be light or heavy, dry or juicy, tender, hard, soft, sweet, sour, aromatic, or insipid. Lastly, the core may be large, as in the tender-meated apples, or small, as in most of the hard and close-meated apples. These sensible qualities vary so much in the fruit of different trees of the same variety, according to soil, situation, climate, and system of culture, that we cannot depend on them as infallible tests, when we are called to identify a disputed variety.

When, therefore, any difficulty arises in determining this identity by the fruit alone, there are other circumstances to be brought to our aid. We may consider the general shape of the tree, and its mode of ramification and inflorescence. It may exhibit an upward tendency of the branches, as in the Early Harvest apple-tree; it may extend its branches more in a horizontal direction, like the tree of the Rhode Island Greening; or it may have an even, round head, without more inclination outward than upward, like the Baldwin apple-tree. Besides these appearances, the branches may be slender and numerous, or they may be short and stout; and the fruit-spurs may be short, and grow out from the sides of branches of considerable size; or they may be longer, and produced more generally from smaller branches, at or near their terminations. In the former case, the fruit will appear to surround the branches of the tree, somewhat like the flowers of the almond; in the other case, the fruit seems to hang more from the outer branches of the tree, giving it a drooping appearance. The Minister apple will illustrate one extreme of this mode of growth, and the Fall Harvey the other extreme. Lastly, the leaf of the tree is examined, whether it be large or small, smooth or pubescent, flat or corrugated; and by carefully considering all these details, in connection with the aspect and other sensible qualities of the fruit, a connoisseur will seldom fail to identify any established variety.

Some persons may regard these distinctions as a matter of very little consequence; but they are just as important as it is that the public should be supplied with good rather than bad fruit, or with a large rather than a small quantity of fruit, or with hardy and easily cultivated kinds, rather than with those of a tender and expensive habit. The farmer fully understands the importance of planting his land with the best and most productive kinds of grass, grain, and vegetables. He knows that his interest depends on his skill and judgment in the selection of kinds, no less than on his system of tillage. The outside public is not fully aware of the difficulty of forming good judgments with regard either to agricultural or horticultural plants. Orchards and gardens, however, may be almost worthless, for the lack of good judgment in the persons employed to stock them. For the want of that sort of experience which enables one to discriminate varieties, or of the advice of some one who possesses it, many unfortunate blunders are annually repeated.

To show the importance of this kind of knowledge, we might select, for an example, three varieties of the apple very nearly resembling one another in sensible and edible qualities, which differ very materially in the abundance and durability of the product. No person would hesitate to say, that of three such varieties the most productive, if as durable as the others, would be worthy of exclusive cultivation. Or, if there were two varieties of the Baldwin apple, one of which produced a moderate quantity annually, while the other produced biennially a large quantity, how great a gain would the cultivators make by having their orchards stocked exclusively with the former! But for the determination of all these matters there must be some standard work to which pomologists as well as amateur cultivators may refer, to obtain any information desired, or to settle any question that may arise concerning the identity of a specimen of fruit. With such a standard in the possession of the public, there would be little danger that any sections of the country would be stocked with the less useful and less productive sorts, and the value of their orchards would be proportionally increased.

Mr. Hovey's "Fruits of America" is a standard work of this character, containing full, careful, and particular descriptions, such as the popular manuals cannot afford. It is illustrated with colored plates, not merely to increase its beauty and elegance as a work of art, but to afford a criterion which is very important in identifying fruits.

A great many books, professing to be guides to practical pomology, have been issued from the press in this country. In the early part of this century appeared several good treatises; among which we would mention Kenrick's "American Orchardist," Thatcher's "American Orchardist," and Manning's "Book of Fruits." More recently we have had Downing's "Fruits of America," Cole's "Fruit Book," Thomas's "American Fruit Culturist," and Barry's "Fruit Garden," all useful and popular works.

In no other country has pomology been carried to such perfection as in Great Britain, and this is owing in part to the wealth and sagacity of the great land-owners, but still more to climate. The English climate, being unfavorable to the production of some of the most valuable Northern fruits, compelled the inhabitants to put forth their utmost skill and energy to remedy the evil. This gave origin to a superior system of culture, and made the art of raising fruits a positive science. Had fewer difficulties been interposed by nature, science, being less needful, would have been comparatively neglected. We might, were this the place, show that the greatness and wealth of the English nation are to be ascribed to the scanty resources provided by nature upon their own soil. Place a man upon a rock, and oblige him to support himself by agriculture, and he will become, by necessity, a scientific farmer. Place him upon a bed of alluvium, in a fine climate, and he will leave his crops to nature, drink whiskey, and become poor in the midst of plenty.

It was in the reigns of Henry VIII. and of Elizabeth that the English people first turned their attention to the culture of such fruits and other plants as could be naturalized in England; and at that time many valuable species were introduced from America, as well as from the continent of Europe. The interest then awakened has been constantly increasing, and such has been the industry of cultivators that there is hardly, at the present time, a useful or remarkable plant which has not been cultivated either in a greenhouse or in the open air in Great Britain. It has been asserted that a stranger, travelling in that country, would find it difficult to distinguish the indigenous plants from those which have been naturalized.

So rapidly were all the different fruits multiplied into varieties, that Henry Phillips, in his "Pomarium Britannicum," published in 1820, remarks, as an apology for not enumerating varieties, "that he could have filled volumes with their names alone; since he finds one individual possessing four hundred kinds of strawberries, and others as great a variety of gooseberries, while the kinds of apples, pears, and other fruits have been still more numerously multiplied." We should now enumerate them by thousands, instead of hundreds, if every new seedling that produced slightly modified characters of fruit were taken into the account.

This multiplication of varieties seems to be a modern work, as we may infer by comparing the present multitudinous list with that of the different kinds of fruit cultivated by the Romans in the time of Pliny. Sir Joseph Banks examined the Latin authors for this purpose, and communicated the result of his researches to the London Horticultural Society. From him we learn that, in the Roman gardens, almonds, both sweet and bitter, were abundant. There were twenty-two sorts of apples, eight of cherries, six of chestnuts, and several of figs. The apricot was cultivated, to a limited extent, chiefly for its fragrance. The Romans had two kinds of mulberries, and another sort described as growing on a bramble, which was probably a raspberry. They had two medlars, thirty-two or more kinds of pears, both early and late, several hazelnuts and filberts, a few prunes, a multiplicity of plums, three kinds of quinces, and several services. Strawberries were scarce, as the climate of Italy was too warm for them. Of grapes they had numerous sorts; of walnuts they had the soft-shelled and the hard-shelled, and they believed that in the Golden Age, when mankind lived upon acorns, the gods lived upon walnuts. Hence the name Juglans, given to the walnut-tree, from *Jovis glans*.

It is a fact deserving attention, that, in the days of Queen Elizabeth, several species of fruit were cultivated in orchards, which are now considered worthless, and are almost entirely neglected. Among these may be mentioned the Sorbus, known by the familiar name of Service-tree, which is undoubtedly a corruption of the Latin name, as the fruit was never held in much esteem, or deemed remarkably serviceable. The other fruits included in the same category are the Medlar, the Lotus, and the Cornel. The fruit of all these species is harsh, astringent, and of little value.

The service-tree deserves mention only as a subject of pomological history. It is a large tree, often attaining the dimensions of a moderate-sized oak; and is planted in many places for shade and ornament. The service-berries are unfit for use until they are mellowed by partial decay. They grow in bunches, like the berries of the mountain-ash; when gathered, they are strung upon a cleft stick, hung up out of doors, and allowed to remain until they have passed through the first stage of decomposition; and in this state the fruit was sold by the country people. At the present day so little use is made of the fruit of the Sorbus, that a few only of the inhabitants of Great Britain are acquainted with the tree.

The Medlar (*Mespilus*), like the Sorbus, bears a fruit that is not eaten until it is partially decayed, when it is mellow and agreeable. Gerard says: "The medlar grows in hedges, among briers and brambles. Being grafted on the white thorn, it prospers, and produces fruit three times as large as those which are not grafted at all, and almost the size of small apples." The medlar, though it grows in all parts of Europe, is cultivated chiefly in Italy and Holland. While most other fruits have been carefully cherished and brought to perfection, this, like the service-tree, has been neglected, probably on account of the incapacity of these two species to be essentially improved by culture.

We pass from these almost unknown and unimportant species to the Apple (*Pyrus malus*), — the most valuable of all Northern fruits. The apple was one of the first fruit-trees planted by our ancestors, who could not in the wilderness raise those fruits that require the skill of the gardener. Apples were introduced into Italy from Media, according to ancient authors. This may be true of the first improved varieties, but the species is indigenous in all parts of Europe, Northern Asia, and North America. The English name of this fruit was derived from the Latin name of one of the ancient varieties, — the Appiani of the Romans, afterwards called Appia and Appiole by the Italians. The apple was very highly prized by the ancient Romans. According to Pliny, "there were many apple-trees in Rome that let for the yearly sum of two thousand sesterces; and some of them yielded more profit than a small farm. Hence originated the invention of grafting. There are apples that have ennobled the countries from which they came; and many apples have immortalized their first founders and inventors."

Persoon enumerates five species, or sub-species, of the apple; — the Sylvestris, or wild-apple; the Prasomila, or pippin; the Castanea, or chestnut-apple; the Aprisa, or ape-apple; the Cavilla, or cornered apple. To these may be added the Prunifolia, or Siberian crab. In North America are found two native apples, the *Pyrus coronaria*, or Virginia crab, bearing a small fruit and fragrant rose-colored flowers, and the *Pyrus angustifolia*, found in the Middle States, bearing small leaves and fruit. The common apple-tree is found also in a naturalized wild state in almost all parts of North America.

The Pear (*Pyrus communis*) was known and cultivated at as early a period as the apple, and has been multiplied into a still greater number of varieties. This tree is indigenous in all the mountainous parts of Southern Europe, and among the ancients as well as the moderns it was the favorite fruit of the amateur pomologist, on account of its great susceptibility of modification and improvement. As early as the time of Gerard, the varieties of the pear had been greatly multiplied even in England. He mentions one of his neighbors who had, in a single piece of ground, "threescore sundry sorts of pears, and those exceeding good"; and Phillips, in his "Pomeranium Britannicum," speaks of a person, in 1820, who had two hundred and thirteen kinds of pear-trees.

The pear-tree is probably more southern in its origin than the apple-tree; for though the two trees are almost equally hardy when they have attained a good size, the young seedlings of the pear require more protection in the winter. It appears also, from the experience of American cultivators, that the pear can be raised with more general success in the Southern States than the apple. It is said that the twigs of the pear-tree were boiled with mushrooms by the ancient Romans, to correct their poisonous effects; the ashes of the pear-tree were formerly used in England for the same purpose, and hence probably originated the notion among the English people, that *perry* is the best liquor to be used after eating mushrooms.

The Quince (*Pyrus Cydonia*) is one of the luxuries of the garden which is seldom eaten in its raw state. Quinces were anciently common in Palestine, and were highly valued for their odor, as appears from the testimony of the Bible; and they are used at the present day, by the peasantry in the South of Europe, for perfuming their linen. The quince is not inclined, like the apple and pear, to "sport" into varieties, of which there are not at the present time more than four or five. Not one of these sorts is mellow; but they are all extensively used for culinary and confectionery purposes. Some writers maintain that quinces, not oranges, were the golden apples of the Hesperides, saying that there was discovered at Rome a statue of Hercules holding in his hand three quinces. This agrees with the account in the fable, that Hercules stole the golden apples from the garden of the Hesperides. The nuptial apple, prescribed by Solon, and with which were decorated the statues of the gods who preside at the nuptial bed, was also a quince. The quince grows wild in many parts of Southern Europe, though it is supposed to have originated in the Island of Candia, once called Cydonia, which is the botanical name of the species. The quince requires a long summer to mature its fruit, which is of slow growth, though the tree seems to be perfectly hardy. In some of the southern districts of England quinces are raised in great abundance for the manufacture of wine.

Among the wild fruits of America allied to the apple and the pear, the tree known by the names of June-berry and Shadbush, the *Amelanchier ovalis* of Torrey and Gray, deserves mention from the importance of its fruit. This fruit ripens in June; it is pear-shaped, of about the size of a common gooseberry, and of a pleasant flavor. Dr. Darlington says that it is greatly improved by culture. This species naturally multiplies into varieties, of which there are great numbers in our Northern forests. Dr. Richardson says it is abundant on the sandy plains of Saskatchewan, where it is highly prized by the Cree Indians. Far north this plant becomes a tree of middle size, but it is smaller in lower latitudes, until in Pennsylvania it is only a bush from two to five feet high.

The Peach-tree (*Amygdalus Persica*) is supposed to be a native of Persia, and was probably well known in the East long before it was introduced into Europe, about twenty years before the age of Pliny. It is remarkable that the peach has never yet been found in a wild state, either in Persia or in any other country; and botanists are still in the dark concerning it. Some are of opinion that its native region remains still to be discovered; others trace its origin to some species of the almond. This last supposition, though apparently absurd, is rendered less improbable by an experiment of Mr. Knight, who procured a new peach by impregnating the blossom of an almond-tree with the pollen of the peach-flower. The almond that sprung from this blossom, when planted, vegetated, became a tree, and has since ripened peaches. The identity of the two species is certainly rendered probable by the result of this experiment. The peach-tree is rapid in its growth, and is generally short-lived, though instances of considerable longevity are not uncommon. Phillips remarks that he has seen peach-trees bearing fruit abundantly when they were between forty and sixty years old. In this country, north of thirty-six degrees, the peach-tree is liable to be killed by severe winters; but south of that parallel, where it is secure from excessive cold, it attains a great age.

The Nectarine is only a variety of the peach. Pliny says that, of all peaches, the one most admired in Rome is that named *Duracina*, from the solid character of the pulp. He has evidently, under this name, described the nectarine, which is distinguished from the peach by the firmness and fineness of its pulp, and the smoothness of its skin. Well authenticated instances are on record of nectarines and peaches growing on one branch without any artificial cause.

The Plum (*Prunus domestica*) includes innumerable varieties of a well-known species, supposed to have been produced from the *Prunus insititia*, a common indigenous tree in the mountainous parts of Asia, closely allied to the European sloe, — *Prunus spinosa.* There are so many original species of the genus *Prunus*, that it is hardly philosophical to trace all the cultivated varieties to a single source; especially as some of these varieties are sufficiently distinct to be considered different species. There are several species indigenous in North America: of these the most remarkable are the Beach plum (*Prunus maritima*) and the Canada plum (*Prunus Americana*). The beach plum is a mere shrub, seldom more than three or four feet in height, and found chiefly in rocky and sandy soils within twenty miles of the coast. The fruit is globular, varying in color in different trees from crimson to purple, and agreeable in flavor. It is used extensively by the inhabitants of Plymouth County. The other native plum is a much more important species, which has been very generally cultivated in certain sections in the interior. The tree has about the size of the common plum-tree. Mr. Emerson remarks: "The fruit, which is often an inch in diameter, is sometimes sweet and pleasant, but usually rather austere, and used chiefly for preserving in sugar; but much improved, according to Dr. Darlington, by cultivation." This fruit is vulgarly called "Plum granates" in the State of Maine.

The Apricot (*Prunus Armeniaca*) is supposed to be of Armenian origin, though it is said not to be indigenous in Armenia. It is allied to the plum as the nectarine is to the peach. This fruit was known at a very early period, but has always been valued chiefly for its odor, being inferior in most respects to the best varieties of the plum. The apricot-tree is easily cultivated, and sows itself readily in the southern parts of Europe and the United States. Though it is hardy, a northern climate is unfavorable to the ripening of its fruit.

The Cherry-tree was formerly included in the genus *Prunus;* but was separated by De Candolle into a distinct genus, *Cerasus*, which comprehends about forty well-defined species, natives of all countries in the northern temperate zone. Ten or twelve species are found in North America, of which four or five are indigenous in the Northeastern States. This genus is arranged into two sections; the first bearing its flowers in umbels, like the common garden cherry; the second, like the black wild cherry, bearing its flowers in racemes. The first includes the only species which are susceptible of any considerable improvement by cultivation.

The cherry-tree of our gardens, according to Pliny, was found by the Roman general Lucullus, in Cerasus, a city of Pontus which he had conquered from Mithridates. Lucullus, who was so great an epicure in all kinds of luxury and ostentation as to incur the censure of Cato and of his biographer, Plutarch, introduced this tree into his own gardens about 68 B. C. "In less than twenty-six years after," says Pliny, "other lands had cherries, even as far as Britain beyond the ocean." This record of Pliny must have had reference to a certain cultivated sort, as the cherry-tree is indigenous in Europe, and must have been common in Italy long before the birth of Lucullus.

In all parts of Europe, and in the Northern and Middle States of North America, the different varieties of the cherry thrive well, and produce an abundance of fruit. But it is one of the few Northern fruits that cannot be profitably raised in the Southern States; and it must be affected, therefore, more by latitude than by other circumstances of climate, as it thrives well in the South of Europe, where the climate is warmer than in the Southern States of America. Pliny says that "the cherry-tree could never be made to grow in Egypt, with all the care and attention of man."

Of our native cherries there are two species that might be made useful as stocks for grafting, or for raising new varieties. These are the Northern red cherry and the sand cherry, from which dwarf-varieties might easily be obtained for training to a wall. Emerson advises the planting of the Northern red cherry in the borders of our fields for the use of the birds; because it ripens its fruit before the black racemed species, and would prevent their depredations on the gardens. The cherry, on account of the early ripening of its fruit at a time when the acidulous fruits are among the necessaries of life, during midsummer, is one of the most valuable trees of our orchards. It may be considered as chiefly instrumental in supplying in summer the want filled in autumn and winter by the apple.

The Mulberry-tree (*Morus*) is used at the present day for feeding silkworms rather than for its fruit; yet it is remarkable that the mulberry, which is now almost universally disregarded, was more esteemed by the Romans, even in their degenerate days, when they were the best judges of such matters, than any other fruit. It is remarked by Evelyn, in his "Sylva," that the mulberry-tree possesses the peculiar property of breeding no vermin; neither does it harbor any caterpillar except the silkworm. Indeed, we may remark that the silkworm seems to enjoy a monopoly of this tree, as if nature had bestowed it especially upon this insect for the benefit of mankind. The mulberry blossoms late and ripens early; and it is said that, when trained to the south side of a wall, the fruit becomes much larger and finer than when it grows upon a standard. It well rewards any special care bestowed upon it, though it does not incline to sport into varieties. The only species indigenous in North America is the red mulberry (*Morus rubra*), which is found in most parts of the continent south of Lake Champlain. It is a large tree in favorable situations, rising sometimes to the height of sixty or seventy feet. The best fruit is the product of the red and the black species, the *Morus alba* and *Morus multicaulis* being used only to feed silkworms.

Of all cultivated fruits the Grape has been the most celebrated; but the extraordinary value attached to it has come from its importance in the manufacture of wine. Considered merely as an edible fruit, there are several species that deserve preference; it being not so indispensable to our wants as the apple, and as a luxury not equal to the pear or the peach. But the labors and amusements of the vintage have been so intimately woven with pastoral poetry, that the vine has obtained an influence over the imagination greater than any other plant. Unfortunately for the inhabitants of Northern climates, the grape ripens its fruit at a time when our greatest need of an acidulous fruit has passed; but it possesses the property of keeping well during the winter. The use of this fruit when converted into raisins gives it also a high commercial importance, as furnishing the most valuable of all dried fruits.

Mankind seem to have always made the worst possible use of the gifts of providence, and the grape has been dedicated to Bacchus rather than to Hygeia. According to Phillips, "the planting of vineyards in Italy had so much increased about the year 85 A. D., that agriculture was thereby neglected; on which account Domitian issued an edict prohibiting any new vineyards to be planted in Italy, and ordered at least one half of those in the provinces to be cut down." This edict, which is probably one of the first temperance laws on record, was issued before the unfortunate discovery of the art of making distilled spirits. The evil arising from the excessive production of wine must have been vastly less malignant than the modern evil of rum, whiskey, and their allied products. If Domitian were ruler in the United States, with the same powers he held at Rome, his proscriptive edict would be launched against the manufacture of the latter, and he would encourage the production of wine, as physicians inoculate their patients with the vaccine disease to preserve them from the small-pox.

The notion of the healthfulness of vinous and spirituous liquors will, at some future advanced era of civilization, be classed with the present obsolete notion of the unwholesomeness of fruit. But we are not disposed to proscribe the grape on account of the use that may be made of it for evil; as we would not proscribe rye and barley on account of the still more pernicious products distilled from these grains. The testimony of physicians in favor of the moderate use of wine can always be obtained by those who wish to believe that their gout or paralysis is not owing to their intemperance; but the age of perfect civilization will never come upon earth until Bacchus is everywhere dethroned.

Several species of the vine are indigenous in North America, extending so far north that, in its highest limit, it cannot ripen its fruit before it is cut down by autumnal frosts. The cultivation of the grape deserves encouragement in all parts of the country where the climate is suitable to it; but the aim of those who are interested in the general good should be to obtain hardy sorts and early bearers. The forcing of tender varieties in hothouses is a very harmless amusement for rich men; but it is one in which the public is not interested.

It remains to speak of those fruits which are the product of low shrubs, and are generally classed under the denomination of berries. Of these the Currant (*Ribes*) is of the first importance. This was probably unknown in the gardens of the ancients, as we have no account of it in the writings of the Greeks and Romans. By the Northern nations, however, it was undoubtedly used, if not cultivated, at the earliest periods. It is a native of the northern temperate regions of Europe, Asia, and America; but it is not found in any tropical or sub-tropical latitudes, and will not thrive in a warm climate. The red currant (*Ribes rubrum*) is the most valuable species; including the white and the salmon-colored fruit as varieties incident to culture. This species is found wild in America as well as in Europe, but there is reason to believe that it was not indigenous here. All our well-attested indigenous species are sub-species of the Black currant (*Ribes nigrum*). The Missouri currant (*Ribes aureum*) is a separate species, cultivated for ornament, and for the beauty and fragrance of its flowers. De Candolle describes more than fifty distinct species of Ribes, of which more than half are natives of North America. This genus is divided into two sections, those bearing their flowers and fruit in racemes, included under the denomination of currants; and those bearing their flowers in small umbels or clusters, included under the denomination of gooseberries. Of these the former are generally smooth, the latter armed with thorns or prickles. It is worthy of remark, that, in the case of the Ribes, as in that of the cherry, the only kinds susceptible of much improvement by culture are the umbelled kinds, the racemed species of either genus being nearly the same in gardens as in their wild state.

The black currant is not so generally used, nor is it so acidulous and agreeable, as the red currant. It has lately been much improved by culture, and some varieties of it are held in great esteem for confectionery purposes. In Russia, where black currants grow to the size of hazel-nuts, they are used for wine. Jellies made from them are in great repute for diseases of the throat; but at the present day all fruits are classed by intelligent physicians in the same category, as refrigerant and antiseptic articles of diet, useful for their nutritive properties, but having no specific medical virtues. Currants may be classed among the most valuable of our small fruits. They are easily cultivated, growing almost without care from a slip set in the ground. They are also very uniformly productive, and are not injured by frost at any season. They ripen early, and will hang upon the branches a long time without decay or loss of flavor. Red currants, ripe on the first of August, will in an ordinarily dry season keep perfectly well on the bushes until October.

The Gooseberry (*Ribes*, sub-genus *grossularia*) is a favorite fruit with British and Dutch cultivators, who have long made it a subject of special care. Like the pear, it is naturally inclined to sport into varieties, differing in this respect from the red currant, and the cold and moist climate of Great Britain is agreeable to its constitution and habits. In its wild state it is small; but it has been improved by the ingenuity of English and Dutch gardeners to the size of large grapes. This fruit is highly prized in England for culinary purposes in its green state, and as a dessert when it is ripe.

Of the Rubus we have three distinct kinds: the Raspberry (*Rubus Idæus*), the Thimbleberry (*Rubus occidentalis*), and the Blackberry (*Rubus hispidus*); and each of these has several allied species and innumerable varieties. The raspberry and the blackberry only were known to the ancients, the thimbleberry being an American plant. Being Northern fruits, they did not prosper in the climate of Italy, and accordingly were very lightly prized. The raspberry and thimbleberry are more susceptible of improvement by culture than the blackberry, of which the best wild sorts have never been surpassed by any of the products of cultivation. The blackberry, of which there are three or four leading species, is found multiplied in our fields into hundreds of varieties, occupying every perceptible stage from the European species, *Rubus hispidus*, — the true high blackberry, — down to the little evergreen dewberry, that bears a fruit no larger than a pea. The earliest species is the common trailing sort, *Rubus Canadensis*, an indigenous plant.

The Strawberry (*Fragaria*), though an herbaceous plant, is closely allied to the Rubus, resembling the raspberry in leaf and fruit. Gerard speaks of three kinds — the Red, the White, and the Green strawberry — as common in England, but considers the red strawberry as the only indigenous species. The green strawberry, now regarded as worthless, was called the Pine-apple strawberry, from its excellent flavor. The varieties of the strawberry have been multiplied almost beyond enumeration. In 1820 Mr. Knight stated that he had not less than four hundred varieties in his garden, many of them the products of his own skill. Yet of these, and of the much greater number since produced, about ten or twelve might be selected which would represent all the others; that is, all the remainder, so far as the human senses are able to determine their qualities, could not be distinguished from some one or other of these.

It is remarkable that the flavor of the strawberry is not improved, like that of many other fruits, by cultivation, which gives it only increased size and greater productiveness. It is also worthy of remark, that the fruits which have been carried to the greatest degree of perfection by the arts of the pomologist, are those which are good for nothing in their wild state. Such are the apple, the pear, and the peach. The first two are known as being almost uneatable in their primitive condition; and though the wild peach has never been discovered, tradition represents the original fruit as worthless, and even poisonous, and no more fit to be eaten than the rind or pulp that encloses a hickory-nut. The strawberry, and the different species of Rubus, being all delicious fruits in their natural state, cannot be materially improved by culture. According to this principle, the Chokeberry would better reward any efforts that might be made to improve it than the Whortleberry.

The Barberry is known in this country only as a wild plant; but it is so common on our hills and our rustic waysides, that every one is acquainted with its fruit. It is an elegant shrub, at all seasons; in the spring, when crowned with flowers, in summer, contrasted with paler verditure, and in autumn, when its clusters of scarlet fruit are succeeded by a tinted foliage of the same hue. It is indigenous in New England, Canada, and Newfoundland, especially along the coast. Some botanists think it was originally introduced from Europe, but there seems to be a certain specific difference between the European and the American plant; as people in Europe are cautioned against cultivating the barberry near their houses, on account of the disagreeable scent of its flowers, which are extremely offensive. As this cannot be said of the American plant, the two are probably not identical. Mr. Emerson writes: —

> "The barberry is admirably well adapted to enter into the composition of a hedge, from the multitude of its shoots and the sharpness of its spines. There is, however, in this country as well as in England, a prejudice against it, from the belief that it produces the blight in wheat. Prof. Martyn urges against this opinion the fact that it abounds in the hedges of Saffron Walden, in Essex, England, which enclose fields in which wheat is cultivated constantly and with entire success. And Dr. Greville, in his 'Scottish Cryptogamic Flora,' has shown that the mildew which attacks the barberry (*Œcidium berberidis*) is quite different from the fungus which occasions mildew in wheat, which is a kind of Uredo, entirely remote in its botanical characters from an Œcidium." — p. 523.

As an ingredient in a miscellaneous hedgerow — for a clipped hedgerow, which is one of the most obnoxious remains of the topiary art, ought not to be tolerated in a Christian community — the barberry is particularly worthy of cultivation. The fruit, though not containing so wholesome an acid as the currant or the cranberry, is a good substitute for the latter, and is highly prized for many culinary purposes. The barberry is supposed to be the fruit called Appendices by the Romans. Pliny says: "There is a kind of thorny bush called *appendix*, having red berries hanging from its branches, which are called *appendices*."

It remains to speak only of the *Vacciniecæ*, including the Whortleberry, the Bilberry, and the Blueberry, which, though they have never been cultivated, are of great importance in all the Atlantic States, especially in New England. In the United States there are more than twenty distinct species, and endless intermediate varieties. They abound in all parts of the coast, from Maine to Florida, but are most numerous in the Northeastern States. They are also found in some of the tropical islands in this hemisphere. A few species are indigenous in Europe; and no less than fifteen varieties were introduced into England between the years 1761 and 1796, and have extended over a considerable part of the island. The whortleberry "grows on the most wild and heathy commons and uncultivated hills. The fruit seldom reaches the London market, although it is much admired by many people in their tarts and with cream. The berries are gathered by the children of the cottagers, and by them carried to the nearest market-towns, and often in quantities that load several asses." No efforts have been made to cultivate any of the Vaccinia, and it is doubtful if the genus is susceptible of improvement by culture. Many of the species yield an excellent and valuable fruit; and if not cultivated, they should be domesticated by planting them as a part of a miscellaneous hedgerow, or border shrubbery, around our fields and pastures, where they thrive admirably well, and produce an abundance of fruit. They are likewise very ornamental, both when in flower and when in fruit, but chiefly when they have attained their bright autumnal tints, in which they surpass almost all other trees and shrubs. The common Swamp Blueberry (*Vaccinium corymbosum*) is the most valuable for this purpose, especially as it produces the best fruit of all the genus. The vulgar name of Huckleberry given to this fruit, being less euphonious than that of Whortleberry, and also incorrect according to the rules of orthography, deserves to be repudiated by all correct speakers and writers. When custom, by deviating from propriety, has evidently improved a word, we may adopt the change as a step towards the gradual perfection of our language; but when, as in changing *whortleberry* or *hurtleberry* to *huckleberry*, we substitute, for a word that is both legitimate and pleasant to the ear, one that is both disagreeable and incorrect, the change ought to be repudiated. A strange fancy has prevailed for some years past among literary men to adopt and sanction certain vulgarisms; by such a taste our language is seldom enriched, certainly never improved.

The Cranberry was formerly classed with the Vaccinia, but it has lately been separated into a distinct genus, under the euphonious name of *Oxycoccus*. This genus contains three species: the European cranberry, *Oxycoccus palustris*, differing from the American species chiefly in its smaller size, the American cranberry, *Oxycoccus macrocarpus*, and the Bush cranberry, *Oxycoccus erythrocarpus*, found on the mountains of the Southern States, and bearing fruit of a very superior flavor. The cranberry was first cultivated by Sir Joseph Banks, who obtained in one year (1818) from a bed about eighteen feet square three and a half bushels of berries. Since that date the cranberry culture has been a special object of attention among horticulturists, though no attempts have been made to obtain new varieties. The cranberry has lately become an important article of commerce, and deserves particular attention, both in a commercial and a dietetic point of view. It seems better than any other fruit to supply the want which is felt in the spring, before the early fruits have ripened, and when it still retains all its original flavor. It loses none of its vivacity by keeping, and it is remarkable, that, after it has lain in the meadows all winter, and become softened by the frost, it suffers simply a disorganization of the pulp, without any decomposition, and with an actual improvement in flavor.

There is a custom prevalent in Germany, which ought to be imitated in all parts of the civilized world. We allude to the practice of planting the roadsides with fruit-trees, the cherry being the tree most commonly used for this purpose. The product of these trees is for the free use of the public. Were our States and towns to follow this example, we should have less complaint of the depredations of robins and other birds in our fruit-gardens; and, above all, the children of the poorer classes would be supplied with fruit at a season when they suffer very keenly from the want of it, and when the public health would be greatly promoted by its use. Cherry-trees are as good for purposes of shade and ornament as most of our forest-trees; and if they were half as numerous as other shade-trees upon our by-roads, they would be secure from injury, because there would be no such scrambling for their fruit as at the present time is almost fatal to the few solitary trees which have accidentally come up by the roadside. If one half the energy and expense which for the last twenty years have been wasted in a ridiculous mania for ornamental grounds, often producing an actual defacement of the landscape, had been spent for this benevolent purpose, we might have been able to supply the whole community with summer fruit by the products of the roadsides.

With regard to the healthfulness of acidulous fruits, volumes have been written on both sides, and we will briefly review some of the opinions and facts which the controversy has called out. We do not, as in ancient times, employ fruits as specifics for the cure of disease; nor do we, as in ancient times, caution people against the use of them as articles of diet, from their supposed injurious effects. It is left, in the present age, to quacks and the venders of patent nostrums, to offer as specifics simple syrups prepared from different kinds of fruit. But while we admit the inefficacy of fruits as medicines, we do not deny their efficacy in preserving health, nor their restorative virtues, as bread and meat are restoratives to a person who is half starved, or vegetables to one who is affected with the scurvy. Fruits are medicines in no other sense than as beef and mutton are medicines to a convalescent who is recovering from a fever.

In the eighteenth century almost all men believed fruits to be unwholesome; but it is worthy of notice that, at the same time, very few doubted the wholesomeness of the wines and spirits that were prepared from them. The doubts formerly entertained of the wholesomeness of fruits arose from the intemperate habits of society. When all men, as in the last century, used wines and ardent spirits freely as a common drink, these induced a condition of the stomach and other vital organs that caused fruit to be injurious to them. If we were to drug robins with wine or whiskey, they would not steal our cherries; and men who drink these liquors freely have in general no appetite for fruit. Not that wines or spirits perform the services which are derived from the use of fruit, but they produce an abnormal condition of the system, demanding the use of a stimulating and vigorous diet of bread and meat, and incapacitating the digestive organs to assimilate acidulous fruits. When an habitual winebibber or brandy-drinker partakes of fruit, it is curious to observe how carefully he selects a sort that is very sweet and mellow. He prefers a sweet pear or peach to any very acid fruit. He pares it nicely with his penknife, to occupy time, and eats only a few slices of it. Some fruits that would be taken with eagerness by water-drinkers set his teeth on edge, and he considers them fit only for swine. Though he may not complain of dyspepsia, his stomach revolts against any very acid fruit. If we see a man enter a garden and eat freely of currants, we may be sure he is no drunkard. Mr. T. A. Knight remarks: —

> "I am disposed to connect some degree of importance to the production of crops of fruit to supply our markets at a moderate price during the winter and spring; for it has been often observed, that great manufacturing towns have generally been more healthy in seasons when fruits have abounded than in others; *and the same palate which is accustomed to and pleased with sweet fruits is rarely found to be pleased with spirits or strong fermented liquors.* Therefore, as feeble causes, which are constantly operating, ultimately produce very extensive effects on the happiness of mankind, I am inclined to hope and to believe that markets abundantly supplied at all seasons with fruits would have a tendency to operate favorably both on the physical and moral health of our people."

In accordance with these observations, modern experience has proved that acidulous fruit corrects that state of the system which requires an antiseptic diet, and thereby diminishes the thirst for vinous beverages.

Wine and spirits also, on their part, by their antiseptic qualities, counteract so much of the appetite for fruit as proceeds from the morbific properties of certain kinds of aliment. If a person has partaken freely of animal food, its putrescent effects are counteracted by alcoholic and vinous liquors, so that a wine-drinker requires but little fruit to meet the wants of the system. A temperate man, on the other hand, counteracts the effects of animal food by the use of acidulous fruits. "Why not, then, use wine or whiskey instead of fruit for this purpose?" Because these beverages produce permanent evil effects greater than the temporary ills which they correct, while simple fruit, along with its antiseptic properties, excites the most beneficial action in the system, and affords a healthful nutriment. It is worthy of remark, that we can procure some of the invigorating effects derived from beef and mutton by using along with a vegetable diet very minute quantities of arsenic. But what sensible man would, on this account, recommend arsenic, instead of animal food, as a desirable means of preserving strength and activity ?

All our edible fruits are salutary articles of diet, supplying a certain class of alimentary wants, as another class of wants is supplied by fish and flesh, and still another class by bread and vegetables. Animal food is valuable chiefly for its azote, farinaceous food for its carbon, and acidulous fruit for the oxygen contained in the vegetable acids. Although oxygen is conveyed to the system chiefly through the lungs, yet a certain proportion of it, especially in hot weather, needs to be conveyed through the alimentary organs. Fruits differ from one another no more than the different cereals differ from one another. The distinguishing properties of flesh are proportional to the gluten it contains; of bread, to the farina it contains; and of fruits, to the acid they yield in an edible condition. Fruits are diluent in proportion as they are mellow and juicy; they are nutritious in proportion as they are sweet and mucilaginous; for the quantity of farina among their ingredients is too small to be taken into the account. The most diluent and refrigerant are grapes, currants, cherries, and the like; the most nutritious are peaches, figs, and sweet pears and apples. All, or nearly all, the pulpy fruits contain sufficient proportions of the ingredients that supply the various wants of the animal system, to enable a healthy person to sustain life and strength upon a frugivorous diet alone, in a hot climate. The fruits which are thus employed by the natives of tropical countries are the sweet and mucilaginous kinds, as dates, figs, and bananas. We do not hear of men living exclusively upon juicy and acid fruits.

It is remarkable that nature in all cases protects the kernel of edible fruits. Animals are prevented from eating the leaf of the cherry-tree by its bitterness, while they are enticed to eat the fruit by its agreeable pulp; at the same time, the kernel is screened from the action of the stomach by a hard shell. Nor is this its only protection; for when it is just escaping from the shell, in the first stage of germination, its bitter flavor prevents the birds from devouring it. It may be objected, that this law does not apply to another class of fruits, such as walnuts, acorns, and hazel-nuts. Nature has made the kernel of these nuts agreeable and nutritive in order that they may be eaten; and yet when eaten they are destroyed. A little reflection will explain the difference, and illustrate both the wisdom and benficence of the law by which it is regulated. While the inner shell is soft, the kernel is protected by an outer rind that is intensely bitter and nauseous. When the inner shell has become hardened, and the kernel is ripe, it is secured from the voracity of most animals by the hardness of the shell. The only animals that can obtain the kernel of the walnut are the rodents, including the squirrel family. But to prevent their utterly consuming and destroying the seed, nature has given these animals a hoarding instinct that causes them to be the planters, and thus the preservers, of the trees whose fruit is their principal subsistence. The squirrel instinctively buries under the earth all the nuts which he finds and cannot eat; and it is remarkable that the nuts thus buried are almost the only ones that germinate, for walnuts and acorns that lie on the surface of the ground are soon spoiled by rain and frost. The hog, while consuming acorns, performs the same service in another way, covering a considerable part of them while rooting and turning up the soil.

Though we advocate the use of fruits as articles of diet, and not as ingredients for the manufacture of wine and kindred products, yet there are certain considerations that show the expediency of raising fruits for this collateral purpose. On account of the present enormous evils arising from the use of distilled liquors as common beverages, and the tendency of wines, including cider and perry in this category, when common and cheap, to take the place of such liquors, Dr. Kennicott of Illinois has recently recommended, in a paper read before the Pomological Society, a more extensive grape and apple culture. It might seem dangerous to cherish a minor evil as a substitute for a greater evil, which cannot otherwise be expelled. Still it must not be overlooked, that a large part of the ethical code consists of rules for determining our choice between two or more evils. Dr. Kennicott considers the culture of the apple and the grape as connected, in the manufacture of wine and cider, with the cause of temperance in a way that would essentially promote it, inasmuch as it would cause fermented liquors to be used in the place of the more pernicious distilled liquors. He recommends the grape, in particular, for Illinois, because the soil and climate of that State are eminently favorable to the culture of the vine. He remarks, that his countrymen are not a healthy people, and he believes their use of whiskey to be the chief cause of their ill health. There is less intemperance and less sickness in wine countries, than in those where distilled spirits are freely used. Here the poor man, he says, drinks whiskey, because it can be easily and cheaply procured, and because it is often urged upon him in exchange for corn. The fatal consequences of the use of whiskey, he adds, are so gradual, that its victims are seldom aware that their diseases are caused by it; but physicians know, and those who are honest will acknowledge, that a startling percentage of the annual deaths may be traced to whiskey. The acquired appetite for narcotic stimulants urges men to seek for some kind of alcoholic beverage; and the cheapness of the article presented often decides their selection, because they are too ignorant to understand why distilled spirits are more pernicious than wine or cider. Dr. Kennicott therefore advises that "physiology should be taught in our common schools, as well as sufficient chemistry to show our children the constituents and nature of animals and plants, as well as of the food that nourishes them. Mankind will then see that alcohol contains no necessary nutriment, and that its action on the system is always pernicious and often fatal."

If pure wines could be made as plentiful and as cheap as in the wine districts of France, rum and whiskey would soon be expelled from our bar-rooms and from our cupboards; and this change "would immediately add twenty per cent to the average longevity of our laboring population," and a still greater percentage to that of the other classes. To avoid being misunderstood, Dr. Kennicott remarks: "I very much doubt if wine, or any other stimulant, ever adds aught to the sum total either of physical or mental energy and usefulness, though it may add much to both *under certain circumstances* *of depression for a short given period.*" He claims, therefore, "not that wine is necessary, or very often useful, except as a substitute for more pernicious beverages and questionable medicines in general use. We should be healthier, happier, longer-lived, and more intellectual, were we to abandon the use of all stimulants and narcotics."

With regard to the merits of the book under review, as a standard work on pomology, it is only necessary to say, that it is the result of more than twenty-five years' experience of the author in the capacity of a practical cultivator and editor of the "Magazine of Horticulture," a publication which has long been regarded as of the highest authority. But while conceding to it this superior merit as a standard work on the subject which it treats, it deserves public favor on other accounts. It is a work which, by reason of its cost, cannot be popular, and must depend chiefly on rich men and on societies for its support. The pecuniary risk of the author, at whose expense it is published, is very great; and a considerable amount of capital has already been sunk in the enterprise. All those persons, therefore, who feel interested in the subject of the work, are under obligations to do their part towards sustaining it. A book of fruits might be got up by an author who possesses a knack at making compilations, without any experience as a cultivator; and several editions of it might be sold, to the great pecuniary advantage of the publisher, during the time which would be required to prepare, print, and publish a single number of Hovey's "Fruits of America."

The public is not yet sufficiently able to discriminate between these two classes of publications. Indeed, men are too apt to measure their obligations to an author by the amount of money which he has gained by his enterprise, rather than by what he has sacrificed. It will be admitted, that, if an author has written a stupid work, which nobody can read and nobody will buy, and which contains nothing worth reading, its want of sale and its want of popularity may be considered a true measure of the obligation due the author from the public. But if a publication of the highest merit in its department fails to become popular, and is unsalable, either because the masses cannot appreciate it, or because it is too costly, — under these circumstances all wealthy and intelligent citizens should consider it their duty, if not to reward the author, to contribute their aid in sustaining his work.

Such a work is Mr. Hovey's "Fruits of America." The author will probably never be fully compensated for the capital which he has expended on it; and it may be that his ambition or his enthusiasm will not suffice to induce him to make continued sacrifices at the risk of continued losses. For the credit of this community, — considered as a patron of art, science, and letters, — such a work ought not only to be well sustained, but to be made profitable to the author. It would be signally disgraceful to the public if it should be allowed to stop before its completion, while other works not equal to it in merit have been both salable and profitable.

ART. VI. — *Salome, the Daughter of Herodias. A Dramatic Poem.* New York: Putnam. 1862. 12mo. pp. 251.

IN Landseer's picture of Peace, there is seen dimly in the heavens a hawk pursuing its prey, and in his picture of War stands, amid death and ruin, a delicate flower. Each scene thus contains the hint of its opposite. This flower, its fresh beauty looking strange and all the sweeter amid the wrecks of war, was suggested to our thought, as, amid the tumults and excitements of the time, the poem, the title of which stands at the head of this article, came to us. Like that, it tells nothing of the hand that planted and reared it. Bearing no trace of what is going on around it, it speaks of a growth in quieter and happier days. It is thus evidently no hastily got up and carelessly published work. Even Tennyson could not keep the Crimean war out of his Maud. "Salome" has its horrors, its strifes, but these are softened to us by time, and bear no mark of our present turmoil. We do not mean